

DEVELOPMENT OF WASTE MINIMIZATION AWARENESS MODEL FOR  
UNIVERSITY CAMPUS

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A thesis submitted in fulfilment of the  
requirements for the award of the degree of  
Doctor of Philosophy (Facilities Management)

Faculty of Geoinformation and Real Estate  
Universiti Teknologi Malaysia

NOVEMBER 2015

To my beloved father, mother, wife and my children

## ACKNOWLEDGEMENT

I am grateful to Professor Sr. Dr. Abdul Hakim Mohammad of the Universiti Teknologi Malaysia, for his guidance, comments, encouragement and help in the course of this thesis. I am also indebted to Dr. Izran Sarazin, Dr. Lukman Hakim, Dr. Puteri Shireen Jahn Kasim, Professor Dato' Dr. Mansor Ibrahim, Associate Professor Dr. Rashidi Othman, Dr. Jasasikin, Azrin Mohd. Din and Handzalah Abdullah for their guidance and comments. Special thanks go to the Ministry of Higher Education of Malaysia for granting me a scholarship and financial support during my study. In addition, I thank the Dean and staff of the Kulliyah of Architecture and Environmental Design, International Islamic University Malaysia for their support during my study. Last but not least, I am grateful to my parents, Hashim Mohamad and Ampuan Hamzah, my parents-in law, Hasan Shamsuddin and Jaimah Sadiman, my wife, Rajiah Hasan and my children, Nur Aqilah Has-Yun, Ajmal Hadi Has-Yun and Nur Najihah Has-Yun, and my sisters Zuhana Mazwin Has-Yun and Yumi Zuhani Has-Yun for their encouragement, patience and love, which have boosted my morale and motivated me to complete the thesis. Finally, of course, thank be to Allah, without Whom nothing is possible. Amin.

## ABSTRACT

All along waste problems and issues have been discussed. One of the main problem is the lack of waste minimization awareness among citizens. Solutions have been derived, either via technology or by changing human behaviour. Nevertheless the changes in human behaviour is the ultimate solution that should be sought after. In order to change human behaviour, waste minimization awareness should be instilled in the human well-being, which should start in the education environment such as university. However there is limited model available for creating and instilling awareness in people. Thus, this research was conducted to develop the Waste Minimization Awareness Model (WMAM) for university campus. The model will act as a guide and working flowchart for university's administration, lecturers and facilities managers to raise waste minimization awareness and thus improve the waste management behaviour including reduce, reuse, recycle and compost among the universities' students. The three objectives of this research were to identify the components of awareness, to identify the channels of communications and to develop a WMAM for university campus. Soft System Methodology (SSM) was used in this research as a research technique. It has five stages which includes literature review, elements identification, conceptual model development, verification and validation. Survey through questionnaires as a research method was adopted in this research. The respondents for this research were 405 undergraduate students from three public universities, including Universiti Teknologi Malaysia, University Malaya and Universiti Islam Antarabangsa Malaysia. The analysis found that six components of awareness: values, norms, knowledge, perceived behavioural control, motivation and skills needed to raise waste minimization awareness among the students. This research identified 49 channels of communication delivering waste minimization message. These findings from the analysis were used to develop the WMAM and verified through verification by expert.

## ABSTRAK

Masalah dan isu mengenai sampah telah lama dibincangkan. Salah-satu masalah utamanya adalah kekurangan kesedaran pengurangan sampah di kalangan masyarakat. Pelbagai penyelesaian telah dihasilkan, sama ada menerusi teknologi atau dengan mengubah sikap manusia. Namun begitu, perubahan sikap manusia adalah kaedah penyelesaian utama yang perlu dititikberatkan. Untuk mengubah sikap manusia, kesedaran pengurangan sampah perlu diterapkan di dalam kehidupan manusia, di mana ia perlu bermula dalam persekitaran pendidikan seperti di universiti. Bagaimanapun model sedia ada adalah terhad untuk menghasilkan dan menerapkan kesedaran di kalangan manusia. Maka, kajian ini dijalankan untuk membangunkan model kesedaran pengurangan sampah (WMAM) untuk kampus universiti. Model ini bertindak sebagai panduan dan carta alir kerja bagi pentadbiran universiti, pensyarah dan Pengurus Fasiliti untuk meningkatkan kesedaran pengurangan sisa dan memperbaiki tingkah laku pengurusan sisa iaitu kurangkan, guna semula, kitar semula dan kompos di kalangan pelajar universiti. Tiga objektif kajian ini adalah untuk mengenalpasti komponen kesedaran, mengenal pasti saluran komunikasi dan untuk membangunkan WMAM untuk kampus universiti. Sistem lembut metodologi (SSM) telah digunakan di dalam kajian ini sebagai teknik kajian. Ia terdiri daripada lima peringkat iaitu kajian literatur, pengenalan unsur-unsur, pembangunan model konsep, verifikasi dan validasi. Kajian ini telah menggunakan borang soal selidik untuk mendapatkan data. Responden untuk kajian ini adalah sejumlah 405 pelajar ijazah sarjana muda dari tiga universiti awam iaitu Universiti Teknologi Malaysia, Universiti Malaya dan Universiti Islam Antarabangsa Malaysia. Analisis mendapati enam komponen kesedaran: nilai, norma, ilmu, kawalan tingkah laku yang dilihat, motivasi dan skil diperlukan untuk mewujudkan kesedaran pengurangan sampah di kalangan siswazah. Kajian ini juga telah mengenalpasti 49 saluran komunikasi bagi menyampaikan mesej kesedaran pengurangan sampah. Hasil daripada dapatan kajian ini telah digunakan untuk membangunkan WMAM dan telah diverifikasikan menerusi pendapat pakar.